NOvA Experiment Status

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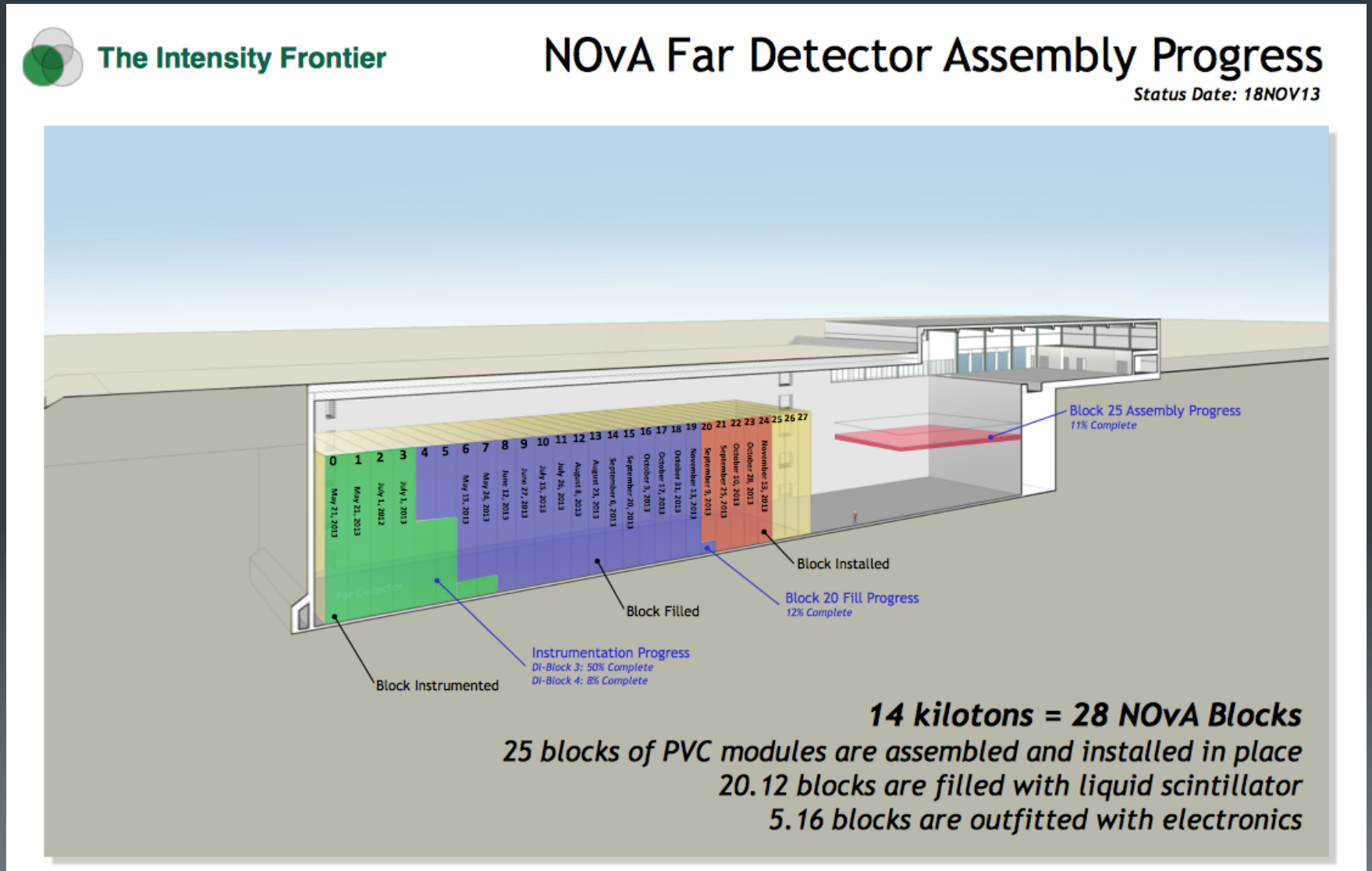
All Experimenter's Meeting, November 18, 2013

Far Detector Construction



FarDet Outfitting Progress

Di-Block Status (11/18/13)

Di-Block Outfitting Status

Position	DiBlock 14	13	12	11	10	9	8	7	6	5	4	3	2	1	
1			DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Avail	APD Avail	APD Avail	Vertical
2			DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Avail	APD Avail	APD Avail	
3			DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Avail	APD Avail	APD Avail	
4			DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Install	APD Avail	APD Avail	APD Avail	
5			DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Install	APD Avail	APD Avail	APD Avail	
6			DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Avail	APD Avail	APD Avail	APD Avail	
7	DCM Avail	DCM Avail	DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Avail	APD Avail	Horizontal
8	DCM Avail	DCM Avail	DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Avail	APD Avail	
9	DCM Avail	DCM Avail	DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Avail	APD Avail	
10	DCM Avail	DCM Avail	DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Avail	APD Avail	
11	DCM Avail	DCM Avail	DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Avail	APD Avail	
12	DCM Avail	DCM Avail	DCM Avail	Filling	FEB Install	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	FEB Avail	APD Avail	APD Avail	

Block Installation Status

	Block 27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Status				Set	Set	Set	Set	Filling	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled

Filling

Filling block 20 (21st block) horizontals. FEB installation for di-block 10 (top)
Install APDs for DCM-04-05.
Tuesday (11/19):
Begin filling block 20 verticals.
APD installation DCM-04-04.
Complete FEB installation di-block 10

Block 21

Vertical Modules

Position	31	29	27	25	23	21	19	17	15	13	11	9	7	5	3	1
0	Tuesday day 12/10/13		Monday eve 12/9/13		Monday day 12/9/13		Friday day 12/6/13		Thursday eve 12/5/13		Thursday day 12/5/13		Wednesday eve 12/4/13		Wednesday day 12/4/13	
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																

Horizontal Modules

Position	30	28	26	24	22	20	18	16	14	12	10	8	6	4	2	0
11																
10	Tuesday eve 12/3/13															
9																
8	Tuesday day 12/3/13															
7																
6	Monday eve 12/2/13															
5																
4	Monday day 12/2/13															
3																
2	Wednesday eve 11/27/13															
1																
0	Wednesday day 11/27/13															

Tuesday eve 12/10/13 — Wednesday day 12/11/13

Block 20

Vertical Modules

Position	31	29	27	25	23	21	19	17	15	13	11	9	7	5	3	1
0																
1																
2																
3																
4																
5																
6																
7																
8																
9																
10	Monday eve 11/25/13		Monday day 11/25/13		Friday day 11/22/13		Thursday eve 11/21/13		Thursday day 11/21/13		Wednesday eve 11/20/13		Wednesday day 11/20/13		Tuesday eve 11/19/13	
11																

Horizontal Modules

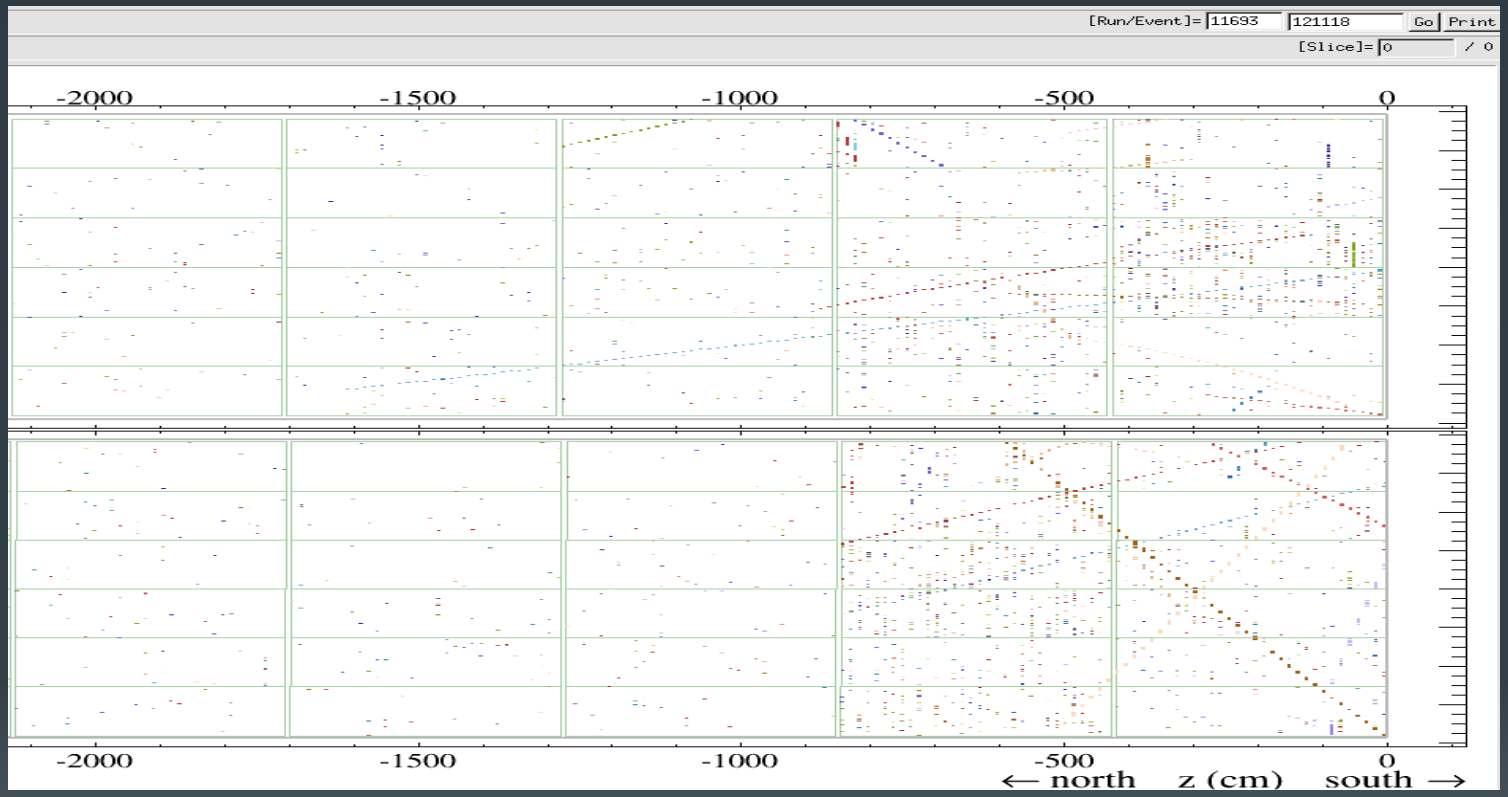
Position	30	28	26	24	22	20	18	16	14	12	10	8	6	4	2	0
11																
10	Tuesday day 11/18/13															
9																
8	Monday eve 11/18/13															
7																
6	Monday day 11/18/13															
5			171		170		153		179		178		179			
4	246	83	246	248	246	244	245	245	245	246	244	245	246	247	247	101
3	244	244	246	249	246	248	248	243	245	243	245	245	242	247	248	248
2	245	245	249	246	244	248	244	248	244	243	246	243	240	244	251	243
1	250	242	248	246	248	237	245	245	240	231	244	228	238	226	247	245
0	243	243	249	247	243	251	244	247	249	245	248	246	242	243	251	247

Tuesday day 11/26/13 — Tuesday eve 11/26/13

Event at FarDet

Vertical Modules
(readout at top)

Horizontal Modules
(readout on side)



Diblock 05 | Diblock 04 | Diblock 03 | Diblock 02 | Diblock 01

FEBs installed

APDs installed
(Position 6)
Full gain, warm
Coated, no A174
primer

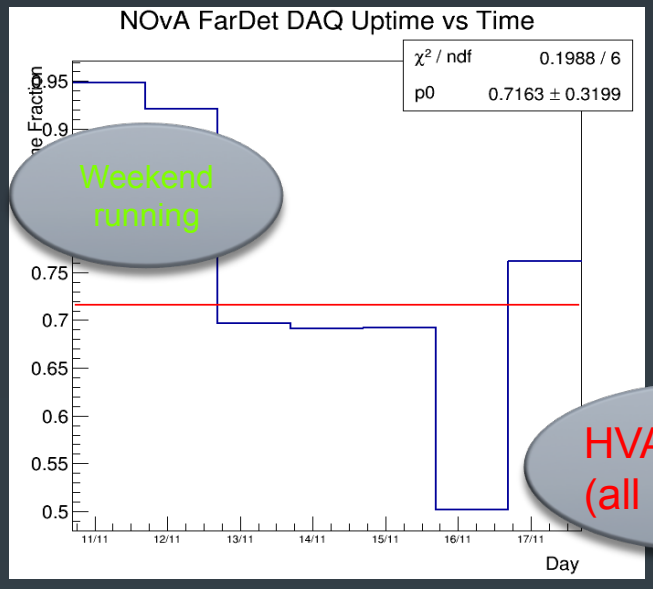
APDs installed
Full gain, cold
Coated, no A174
primer

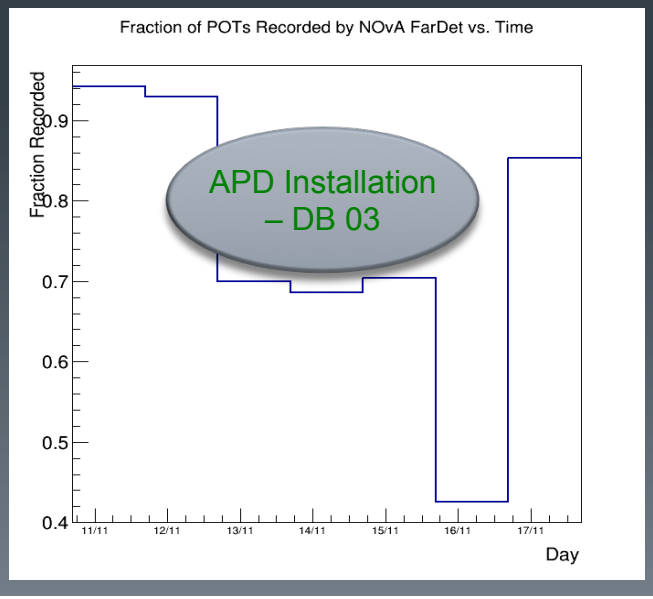
APDs installed
Full gain, cold
Coated w/A174
primer

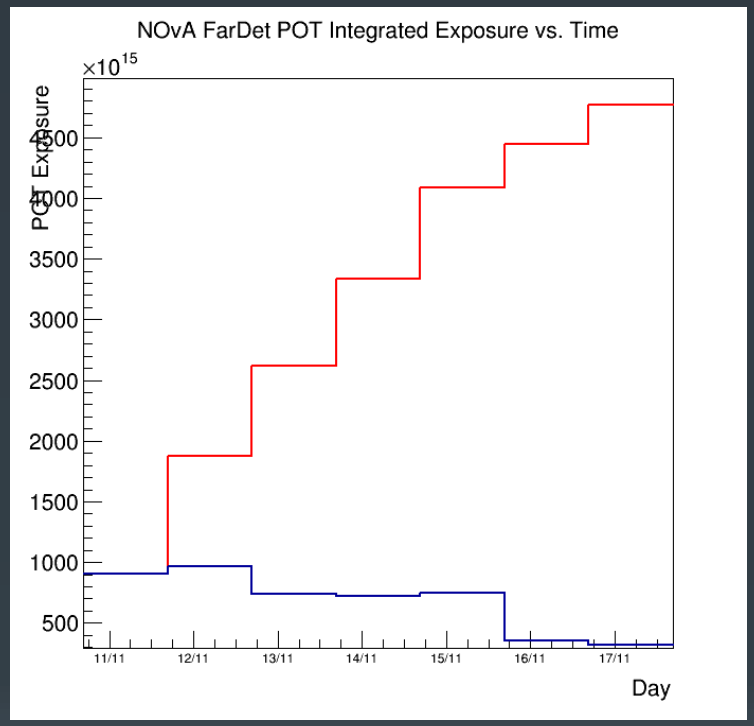
Diblock – 64 planes of alternating x-y views; each plane made up of 12 32-channel modules

Note : 4-diblock track in vert. view (2-diblock match in horiz. View)
Hit color denotes timing

FarDet performance past week







- Very reliable, continuous running on weekends
- APD installation weekdays interrupts DAQ
- Weekday replacements also stops DAQ
- HVAC maintenance – computers shut down

Near Detector Progress

Transporting Block 6 from CDF to Minos SB

Fully installed power cables for entire ND

Near Detector Schedule

News and Weekly Schedule

- Block #6: *as-build location survey Monday*
- Block #7

  2 stacks module received last Wed.

  Assembly to complete Friday

  Chance to transfer to MSB before Thanksgiving
- Assembly table modification to start after block #7 installation
- PS/PDB/DCM for last di-block to start the week of Dec 9?
- DAQ group is repurposing CPU nodes to read out ND -- docDB 10309
- Still working on getting FEB5 boards and TECC cards
- APD water cooling and dryer installations

  Dryer equipment installation starts this week

  Controls (PLC/iFIX) to start cabling this week
- Almost ready to request ORC review of scintillator filling, but still need

  Tanker location and connections

  PPE and spill control &cleanup procedures

Summary

- NDOS Prototype running smoothly, useful for testing of software/ firmware/monitoring upgrades before rolling out at FarDet – test of new FEBs for Near Detector
- NDSBTest (Near Detector Surface Building Test) 30 APD test stand for cooling/monitoring tests of APDs
- FarDet – 2.5 diblocks running cold at full gain – very smooth running, 25th block (out of 28) in place – new APD installation ongoing – very good initial performance of APDs w/o A174 primer
- NearDet – 3/4 of the Near Detector blocks are in place – finish in early January 2014, scintillator filling to start immediately after